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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/302,409	04/30/1999	DENNIS J. O. SHAUGNESSY	1375A1	6842

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PPG INDUSTRIES INC
INTELLECTUAL PROPERTY DEPT
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EXAMINER

MCNEIL, JENNIFER C

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 10/15/2003

23

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/302,409

Applicant(s)

SHAUGNESSY ET AL.

Examiner

Jennifer C. McNeil

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 and 38-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 and 38-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 4, 18, and 19 are objected to because of the following informalities:

Claim 4, lines 15-17 state "defined as alloy oxide film- of the first dielectric film of the first dielectric layer of the first dielectric film". This language is confusing.

Claim 18, lines 6 and 8, should "define" be -defined--?

Claim 18, lines 7-end, the language is confusing.

Claim 19, line 2, should both instances of "film" be -films--?

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15, 17, 21, 23, 24, 25, 31, 32, 51-54, and 56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15, line 6, there is no antecedent basis for "second dielectric films".

Claim 17, last line, which dielectric layer?

Claim 21, lines 8-13, there is no antecedent basis for "third dielectric film of the third dielectric layer".

Claim 23, line 2, there is no antecedent basis for "third dielectric film".

Claim 24, next to last line, there is no antecedent basis for "first zinc stannate layer".

Claim 25, lines 18-30, the phrase after "optionally" is confusing. Please clarify.

Claim 31, lines 26-36, the phrase after "optionally" is confusing. Please clarify.

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Claim 32, while claim 31 states that the first dielectric film and second dielectric film of the second dielectric layer are different, claim 32 recites that the first dielectric film of the second dielectric layer and the second dielectric film of the second and third dielectric layer are the same. This is contradictory.

Claims 51-54 are confusing. Is this an "if-then" clause? Please clarify.

Claim 56, there is no antecedent basis for "the zinc oxide, tin oxide film".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 25, 28, 31, and 52-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Depauw et al (GB 2311540A). Depauw teaches a coated sheet for use in a laminated assembly including a transparent substrate carrying two metal layers formed of silver and three layers of a transparent dielectric material. The dielectric material includes oxides such as tin oxide, zinc oxide, silicon nitride or a mixture thereof, or a complex of zinc stannate. Each dielectric layer can include more than one of these materials and each layer can be a composite layer formed of successive subsidiary layer of different compositions. A combination of tin oxide and zinc oxide is generally advantageous, whether in an admixture of in successive sub-layers. The coated substrate also has a thin layer of a sacrificial metal, such as titanium, provided above and in contact with each metal (silver) layer. Table A shows the successive layers (film) which may be used in forming the dielectric layers of the laminate. Claim 25 simply requires that the second dielectric layer comprise a first film of an oxide of an alloy of zinc and tin and a second film of a different composition. It is clearly taught by Depauw that a combination of tin oxide and zinc oxide is advantageous and that multiple films are used in each dielectric layer. On page 7,

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Depauw states that each layer can include more than one material and each layer can be a composite of successive layer (films) of different compositions. Therefore it is clearly taught by Depauw that the layers may comprise multiple films of different compositions and that a combination of tin oxide and zinc oxide is advantageous as an admixture film.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-24, 26, 27, 29, 30, 32-36, 38-58, and are rejected under 35 U.S.C. 103(a) as being unpatentable over Depauw et al (GB 2311540A) in view of Gillery (US 4,610,771). Depauw teaches a coating for a transparent substrate as discussed above, including multiple films as taught on page 7, lines 16-23. Depauw does not teach specific contents of the zinc oxide/tin oxide layers. Gillery teaches films of metal alloy oxides for use in antireflection films in combination with metallic films such as silver. Gillery teaches that the film may be zinc and tin oxide, wherein the zinc is present at about 10-90% and the remainder is tin. Gillery teaches that this provides maximal transmittance of the coated product. Absent a showing of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a zinc and tin oxide layer having the composition taught by Gillery in the coating of Depauw to provide a coating with improved transmittance. Furthermore, because Depauw teaches that multiple films may be used in each dielectric layer, absent a showing of unexpected results, it would have been obvious to one of ordinary skill to apply the layers in the form of multiple films.

Depauw also teaches that these panels are useful for windshields in vehicles (page 8, lines 29-31).

Response to Arguments

Applicant's arguments filed July 8, 2003 have been fully considered but they are not persuasive.

Applicant's amendments have necessitated the claim objections and the 112(2) rejections, above.

Applicant's amendments include the addition of language to multiple claims to define a layer as an alloy oxide, as well as the addition of "optional" language to multiple claims, as well as other various amendments.

Applicant argues that there is no discussion in Depauw of applicant's second and/or third dielectric layers having a zinc oxide, tin oxide film, or two alloy oxide films of different composition, or a zinc, tin oxide and an alloy oxide film. Claim 25 requires a substrate, a first dielectric layer, an infrared reflective layer, a first metal primer layer, a second dielectric layer, a second infrared reflective layer, a second primer layer, a third dielectric layer, and an optional protective layer. The second dielectric layer is also required to have a first film that may be a zinc oxide/tin oxide film, or an oxide of an alloy of zinc and tin, and furthermore a second film of a composition different from the first film. Depauw clearly teaches that zinc stannate (considered an alloy oxide of zinc and tin) is a suitable dielectric film, and that each dielectric layer can include more than one of these materials and each layer may comprise a composite layer of successive subsidiary layers of different compositions from each other. It is clearly taught by Depauw that a layer of material such as zinc stannate is suitable for a dielectric film and may be a subsidiary layer in a composite layer including dielectric layers of different composition. This clearly meets the limitations of the claim. This applies in similar manner to claims 28, and 31.

Also applicant states that Depauw does not discuss how the film of zinc stannate can be used to attain the optical properties of the Depauw coated article. This argument is not commensurate with the scope of the claims, as there is no optical properties in the instant claims.

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Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer C. McNeil whose telephone number is (703) 305-0553. The examiner can normally be reached on 9-6, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0611.



JCM
October 14, 2003

Jennifer C. McNeil
Examiner
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